

I. IN THE CLAIMS

1. (cancelled without prejudice) A method of controlling the operation of an echo canceller comprising the steps of:

receiving a far-end signal and determining whether said far-end signal is representative of a modulated signal;

5 receiving a near-end signal and determining whether said near-end signal is representative of a modulated signal;

determining whether said echo canceller will converge for said far-end signal; and

controlling the operation of said echo canceller in response to said step of determining convergence and in response to said steps of determining whether said far-end and near-end
10 signals are modulated signals.

2. (cancelled without prejudice) The method of claim 1 wherein said receiving steps use a high-pass filter to determine the characteristics of said near-end and said far-end signals.

3. (cancelled without prejudice) The method of claim 2 wherein said characteristics include the frequency characteristics of said signals.

4. (cancelled without prejudice) The method of claim 1 wherein said echo canceller includes an adaptive filter and said step of controlling the operation of said echo canceller includes freezing the adaptation of said adaptive filter.

5. (cancelled without prejudice) The method of claim 1 wherein said echo canceller

includes an adaptive filter and the step of controlling the operation of said echo canceller includes deactivating the echo canceller.

6. (cancelled without prejudice) A computer readable medium having stored therein instructions for causing a processing unit to execute the following method:

receiving a far-end signal and determining whether said far-end signal is representative of a modulated signal;

5 receiving a near-end signal and determining whether said near-end signal is representative of a modulated signal;

determining whether said echo canceller will converge for said far-end signal; and

controlling the operation of said echo canceller in response to said step of determining convergence and in response to said steps of determining whether said far-end and near-end
10 signals are data.

7. (currently amended) An echo canceller comprising:

means for receiving a near-end signal and means for receiving a far-end signal, whereby said near-end signal includes an echo of said far-end signal;

determination means, coupled to said near and far-end signals, for determining
5 characteristics of said near-end and far-end signals;

an adaptive filter, coupled to said far-end signal, said adaptive filter using a predetermined algorithm to produce an estimate of an echo;

subtraction means for subtracting out said estimate from said near-end signal; and

control means, coupled to said near-end signal, said far-end signal, and said

10 determination means, wherein said control means adjusts the operation of said adaptive filter based upon said characteristics of said near and far-end signals,

said control means comprising

a carrier detect module coupled to a generate action module, said generate action module coupled to a convergence determination module,

15 said carrier detect module determining if at least one input is a data signal, said convergence determination module determining whether said adaptive filter diverges for said data signal, and wherein said generate action module determines whether to freeze or bypass said adaptation filter.

8. (original) The echo canceller of claim 7 wherein said control means determines the divergence of the adaptive filter.

9. (original) The echo canceller of claim 7 wherein said control means selectively deactivates said adaptive filter based upon said characteristics of said near and far end signals.

10. (previously presented) The echo canceller of claim 7 further wherein said control means selectively freezes the adaptation of said adaptive filter based upon said characteristics of said near-end and said far-end signals.

11. (original) The echo canceller of claim 7 wherein said adaptive filter uses a least mean square (LMS) algorithm.

12. (cancelled without prejudice) A network comprising:

a first user device;

a first communication link coupled to said first user device;

a hybrid circuit coupled to said first user device by said first communication link, said

5 hybrid circuit comprising an echo canceller, said hybrid circuit coupled to a second communication link, wherein said echo canceller comprises:

means for receiving a near-end signal and means for receiving a far-end signal, whereby said near-end signal includes an echo of said far-end signal;

determination means, coupled to said near and far-end signals, for determining whether
10 said near-end and far-end signals are not speech signals;

an adaptive filter, coupled to said far-end signal, said adaptive filter using a predetermined algorithm to produce an estimate of an echo;

subtraction means for subtracting out said estimate from said near-end signal; and

control means, coupled to said near-end signal, said far-end signal, and said
15 determination means, wherein said control means adjusts the operation of said adaptive filter based upon the characteristics of said near and far end signals.

13. (currently amended) An echo canceller control module comprising:

means for receiving a far-end signal and means for receiving a near-end signal;

means for determining whether said near and far end signals have predetermined characteristics;

5 means for receiving predetermined operating characteristics of said adaptive filter; and

means for sending a control signal to control the operation of an echo canceller based upon said determination of whether said near and far end signals have predetermined characteristics and said operating characteristics,

said means for sending said control signal comprising

10 a carrier detect module coupled to a generate action module, said generate action module coupled to a convergence determination module,

said carrier detect module determining if at least one input is a data signal, said convergence determination module determining whether said adaptive filter diverges for said data signal, and wherein said generate action module determines whether to freeze or
15 bypass said adaptation filter.

14. (original) The control circuit of claim 13 wherein said control signal indicates the adaptation of the adaptation filter should be frozen.

15. (original) The control circuit of claim 13 wherein said control signal indicates that the operation of the adaptation filter should be suspended.

16. (original) The control circuit of claim 13 wherein said determination means uses a high-pass filter.